

What is claimed is:

1. A field-effect semiconductor device having a semiconductor layer of a first conductivity type, a collector region of a second conductivity type that is formed beneath said semiconductor layer and equipped with a collector electrode on its lower surface, a base region of the second conductivity type that is formed as part of the upper surface of said semiconductor layer, at least one pair of emitter regions of the first conductivity type that are formed as part of the upper surface of said base region, an insulating layer that is formed to contact said base region that is located between said emitter regions and said semiconductor layer, a gate electrode that is placed on the upper surface of said insulating layer, an interlayer insulating film that is formed to cover said gate electrode, a barrier metal layer that is formed to continuously contact said interlayer insulating film, base region, and emitter regions, and an emitter electrode that is formed on the upper surface of said barrier metal layer, characterized in that said barrier metal layer that is formed between said emitter electrode and said interlayer insulating film comprises a layer containing nitrogen.

2. The field-effect semiconductor device according to claim 1, wherein said barrier metal layer that is formed

between said emitter electrode and said interlayer insulating film comprises titanium nitride.

3. The field-effect semiconductor device according to claim 1, wherein the thickness of said barrier metal layer is more than 40 nm.

4. The field effect semiconductor device according to claim 1, wherein the impurity density of said interlayer insulating film is less than 5 mol %.

5. The field-effect semiconductor device according to claim 1, wherein said emitter electrode comprises aluminum.

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